When Plentiful Platforms Pay Off: Assessment Orientation Moderates the Effect of Assortment Size on Choice Engagement and Product Valuation

Abstract

Popular digital platforms, such as Netflix and GrubHub, purposefully aggregate offerings, according to the premise that customers value products chosen from plentiful assortments. Yet academic literature provides little clarity about when, for whom, or how larger online retail assortments affect the value of the products. To provide new insights, the current article aims to address ambiguous extant findings about the effects of larger product assortments. Specifically, this research tests whether customers with high, as opposed to low, assessment orientation value products more when they have chosen them from larger, as opposed to smaller, assortments. Four experiments affirm this idea, such that customers with a high assessment orientation value products more when they have chosen them from platforms with relatively larger assortments. Sequential mediation of the effect occurs through increased choice engagement and attitude certainty. For managers, customer segmentation along the assessment dimension offers benefits, while assessment type marketing communications can increase the likelihood of product selection, like in our field study, where we find an increase of 27%.

Keywords: Assortment size, Choice overload, Retail platform, Assessment orientation, Value from fit, Choice engagement

Introduction

The contemporary retail landscape increasingly features digital platforms—digital intermediaries that enable economic transactions between two sets of agents, such as retailers and customers (Sriram et al. 2014)—that aggregate extensive assortments. Amazon, iTunes, and Google Play dominate their respective fields; other providers are prominent in their respective sectors. For example, for food delivery, GrubHub and Seamless compete to present customers with the greatest variety of appetizers, main courses, and desserts. In the entertainment market, Netflix and Hulu work to engage consumers with a vast range of movies, and in the travel market, Trivago and Booking.com advertise the number of hotels they have available. These practices suggest the conventional wisdom that assortment size really matters when it comes to online retailing.

Yet the actual effects of large assortments on customer engagement, product valuation, and product choice remain ambiguous. For example, most digital platforms claim that their increased assortments drive customer choice, foster decision making, and boost customer spending (Ungerleider 2014). Yet intuitively, too many options may leave customers uncertain about their selection, driving them to devalue any choice they make. Although Amazon's generous assortment enables it to present customers with the offerings they value most (Edelman 2014), customers also might encounter an abundance of options but don't end up purchasing any of them (Iyengar and Lepper 2000). Whereas grocery shoppers might pay a premium for products purchased from online grocers such as Instacart and Freshdirect that enable them to compare a wealth of options for peanut butter, pancake mix, or potato chips (Kadet 2014), some online grocers have increased their sales by eliminating options from their assortment (Boatwright and Nunes 2001).

In empirical research, the focus has mainly been on either positive or negative effects, often with the assumption that the negative effects of large assortments stem from consumers' aversion to making comparisons (Chernev 2003; Chernev, Böckenholt, and Goodman 2015; Shugan 1980; Xu, Jiang, and Dhar 2013). Also meta-analyses do not provide conclusive results about the effect (Chernev, Böckenholt, and Goodman 2015; Scheibehenne, Greifeneder, and Todd 2010), and few studies explore potential moderators of consumers' reactions to large assortments (Chernev, Böckenholt, and Goodman 2010; Spassova and Isen 2013). Yet customers who have a strong interest in comparing and evaluating options, whom we refer to as high assessors, likely prefer to make multiple comparisons among multiple options to find the best choice, unlike consumers without such an interest (i.e., low assessors).

Considering the significance of assortment decisions for both practice and research, we seek to address several challenging research questions with this article. In particular, how can digital platforms identify and target customers who assign more value to products chosen from larger assortments, compared with those who do not? Which customers should retailers with small or large assortments target to achieve higher product valuation? Can managers match their marketing communications to the assortment and thereby to increase the likelihood of product selection? Finally, what underlying psychological mechanism drives value judgments across different assortment sizes? Such questions motivate our studies; which lead to a number of contributions that inform the ongoing debate around the above questions.

First, we show that some customers appear to show a clear preference for products they have chosen from larger assortments. Segmenting customers according to their assessment orientation in turn can have important effects. Online platforms such as Seamless or iTunes can adjust the breadth and depth of their assortment easily, similar to the way they tailor product recommendations to customer tastes. In so doing, they can increase their

customers' willingness to spend. This finding also is relevant for emergent or local platforms with smaller assortments, which can encourage customer spending and the likelihood of product selection by targeting customer segments dominated by low assessors.

Second, assessment is not solely an innate trait to be discovered. It also is susceptible to priming through marketing communications. We show that priming assessment orientation with an advertisement can lead to higher inclinations to spend money for products that have been selected from a large assortment. A field study also shows that when assortments are increased, assessment type banner ads increase the likelihood of product selection by 27%. If digital platforms with large assortments can get customers to think like high assessors, they might improve perceptions of value.

Finally, we elaborate on the process by which assortment size influences spending inclinations. We show that engagement in decision-making and attitude certainty explain a significant part of the variance in customers' valuation of a product chosen from a given assortment. Managers can facilitate this process in several ways, such as including reviews that appear consistent, which then enhances attitude certainty (Rucker et al. 2014).

Conceptual Background

The ongoing debate about assortment levels often cites a dichotomy between the "more-is-better" view (Baumol and Ide 1956) and the threat of "choice overload" (Iyengar and Lepper 2000). According to the former view, large assortments should benefit customers, because they provide more opportunities to serve heterogeneous customer preferences (Baumol and Ide 1956). Large assortments have been found to increase anticipated consumption utility, actual consumption (Kahn and Wansink 2004), purchase likelihood (Koelemeijer and Oppewal 1999), and the ease of making comparisons among options (Hutchinson 2005). However, other studies indicate that large retail assortments tend to

decrease purchases (Iyengar and Lepper 2000), reduce decision satisfaction (Haynes 2009; Schwartz 2000), and increase choice difficulty (Fasolo, Carmeci, and Misuraca 2009). These studies argue for the choice overload view. Meta-analyses, designed to resolve this ambiguity, have offered inconclusive results. Some argue that large assortments exert an effect (Chernev, Böckenholt and Goodman 2015) and others claim they do not (Scheibehenne, Greifeneder, and Todd 2010).

Recent research has made some progress in integrating these positions, by showing that as the size of the assortment increases, the costs of choosing from a large assortment rise faster than its benefits, resulting in an inverted U-shaped relationship between assortment size and choice satisfaction (Lenton, Fasolo, and Todd 2008; Reutskaja and Hogarth 2009; Shah and Wolford 2007). A related line of investigation notes that consumers may be averse to making comparisons (Chernev 2003; Chernev, Böckenholt, and Goodman 2015; Shugan 1980; Xu, Jiang, and Dhar 2013), which could help explain the asymmetric increases in costs and benefits as assortments increase in size. Yet the debate continues; meta-analyses have revealed that the U-shaped relationship between assortment size and choice satisfaction does not explain all of the variance (Scheibehenne, Greifeneder, and Todd 2010). Moreover, the notion of a universally negative comparison experience is questionable. Studies in related literatures clearly show that some consumers might be relatively more willing or interested in making comparisons (Kruglanski et al. 2000, 2013). Accordingly, several researchers have called for further investigations of various factors that might increase consumers' valuation of products when they have chosen them from large assortments (Chernev, Böckenholt, and Goodman 2010; Scheibehenne, Greifeneder, and Todd 2009). In an attempt to introduce such factors, we take a novel theoretical perspective on assortment-related questions.

Regulatory Mode

Regulatory mode theory (Higgins, Kruglanski, and Pierro 2003; Kruglanski et al. 2000) proposes that consumers pursue their goals by adopting assessment and locomotion orientations. An assessment orientation implies a motivation to evaluate available alternatives to improve decision quality and make the best choice (Kruglanski et al. 2000). Consumers with high assessment orientation prefer to review and compare as many options as possible before making a decision; if they are choosing a movie to stream for example, they read the reviews of each movie available. They feel good about making sure that they choose the option with the best attributes overall, so they compare with all alternative options (Kruglanski et al. 2000). If people have a low assessment orientation though, they do not exhibit this emphasis and feel comfortable with their decision even without as many comparisons. When low assessors choose a movie to stream, they might look briefly at the average ratings, rather than reading each review. As a motivation, an assessment orientation implies that some consumers, but not all of them, become disengaged during the process of making comparisons (Kruglanski et al. 2000). Finally, regulatory mode theory offers a way to identify individual differences in assessors using established measures (Kruglanski et al. 2000) or to prime assessment orientation as a temporary state (Avnet and Higgins 2003).[1]

Regulatory Fit and Value

Pursuing a goal, such as a purchase, in a manner that fits with the customer's motivation intensifies the experience of not only of the decision process but also the outcome (Higgins 2000, 2006). Thus high assessment customers might value products chosen from a

[1] Locomotion pertains to progressing in the decision process (as immortalized in the Nike slogan "Just do it"; Kruglanski et al. 2000). It is distinct from low assessment, in that locomotion implies an orientation toward initiating and maintaining progress in a straightforward, direct, uninterrupted manner (Kruglanski et al. 2000). Consumers with high locomotion orientations feel good about making decisions. They just want to select a movie, so that they can move on to invite friends and order dinner. The way locomotion is described in the literature does not reference a motivation for comparison. Accordingly, if the preference for comparison drives customers' relation to given assortment size; locomotion should not affect that relation.

larger assortment, because they can make more comparisons. This link implies the concept of regulatory fit.

Regulatory fit theory offers a particular definition of value as an experience of attraction toward the positive outcome of the goal pursuit, such as choosing a desired product (Higgins 2006; Higgins and Scholer 2009). If the environment matches the motivation, the person pays closer attention to the choice, and thus, its attractiveness looms larger (Higgins 2006; Higgins and Scholer 2009). In turn, the process of making comparisons among multiple options may result in value for the chosen option, due to the regulatory fit it offers to consumers who have high assessment orientations. By extension, this valuation may increase their willingness to pay (WTP)[2].

The connection of regulatory fit with increased value has been demonstrated by Avnet and Higgins (2003), who experimentally induced either a locomotion or an assessment orientation among participants in their experiment, then manipulated different choice strategies. Specifically, half of the locomotion participants and half of the assessment participants received instructions to eliminate the worst alternative in each phase until only one alternative remained, according to a *progressive elimination strategy*. The other half were told to make comparisons among all the alternatives on all the attributes, then choose the one with the best attributes overall, according to a *full evaluation strategy*. The results showed that a progressive elimination strategy steadily restricted the number of comparisons available, suggesting a poor fit with assessment. In contrast, the full evaluation strategy, by allowing for all possible comparisons, fit an assessment orientation. In turn, these authors

[2] Note that value as described in Higgins (2006) is defined as attraction towards an outcome. In our case, the outcome is a product chosen from a particular assortment. Because attraction can be thought of as a motivation (Higgins 2006) we can conceptualize the value of a product as the strength of the motivation to possess it. In our studies, we link the motivational interpretation of value with traditional definitions based on WTP to show that they are consistent.

show that a dominant option (i.e., all participants were likely to make the same choice by the end of the experiment) evoked greater WTP when the decision strategy matched the participants' experimentally induced orientation. That is, people in the assessment condition who engaged in the full evaluation strategy offered more money to buy the same product than did assessors who adopted the progressive elimination strategy. In essence, participants paid more for the same product when they could use their preferred decision strategy.

Similar to the experimental full evaluation strategy, a large assortment increases the availability of comparisons. Although some previous literature suggests that comparisons lead to choice overload (Chernev 2003; Chernev, Böckenholt, and Goodman 2015; Shugan 1980; Xu, Jiang, and Dhar 2013), regulatory mode and fit theory offer an important qualification to this generalization, because customers likely respond to increased comparisons according to their assessment orientation. High assessors should exhibit a greater preference for more comparisons, such that they may feel better about the choices they make from large product assortments and potentially indicate higher WTP.

Building on regulatory mode and regulatory fit, we predict that customers may value products more as a result of an increased assortment level when they exhibit a high assessment orientation, or they may respond negatively when they have a low assessment orientation. Furthermore, we anticipate that the influences of such regulatory fit might be mediated sequentially by two key functions: engagement and attitude certainty.

Mediation Effects

Engagement. In describing how value derives from regulatory fit, this theory references engagement as a key factor (Higgins 2006), defined as "sustained attention in goal pursuit—a state of concentration, absorption, or engrossment in an activity, including the activity of making a choice" (p.102; Higgins and Scholer 2009). When people are more

engaged in goal pursuit, they attribute more value to the goal, such that paying closer attention to a choice process should strengthen people's attraction to the ultimately chosen product (Higgins 2006). Prior studies confirm that engagement amplifies judgments of attraction to positive outcomes (Higgins 2006; Higgins and Scholer 2009; Keeling et al. 2013; Lee, Keller, and Sternthal 2010; Pierro et al. 2013b); accordingly, we posit that the fit that a high assessor experiences due to a larger assortment (i.e., assortment–assessment fit) may enhance customer engagement, which in turn increases WTP (Pierro et al. 2013b).

In support of this prediction, Pierro et al. (2013b) affirm that the effect of regulatory fit on evaluations is mediated by participants' self-reported engagement with the message in an advertising context. These authors both induce (their Study 1) and measure (their Study 2) assessment and locomotion orientations, then assign half of the participants to see an advertisement that fit with high assessment orientation, while the other half viewed an advertisement that fit with high locomotion orientation. Those who experienced regulatory fit reported better advertising evaluations, mediated by their level of engagement. We similarly expect that engagement mediates the impact of regulatory fit on customers' WTP.

Attitude Certainty. However, we also note some differences between our conjecture and the effects reported by Pierro et al. (2013b). Engagement with a persuasive advertising message is a conventional process, seemingly more so than engagement with a product due to the assortment level. In particular, value judgments often reflect the uncertainty inherent to decision making, especially uncertainty about product performance (Edwards 1954; Von Neumann and Morgenstern 1947). In contrast, attitude certainty implies confidence in the correctness of an attitude toward a product or service (Krosnick et al. 1993).

We propose that customers who experience high engagement because of the regulatory fit they experience during their choice process also feel more certain about their

attitudes toward the chosen product. Previous persuasion literature already has shown that engagement due to regulatory fit can increase the certainty with which customers hold attitudes (Avnet, Laufer, and Higgins, 2013; Cesario, Grant, and Higgins 2004). However, the link between regulatory fit and attitude certainty has not been explored in customer decision-making contexts, possibly because it requires an additional conjecture to complete this conceptual prediction. Thinking of engagement as sustained attention helps to understand this relationship: i.e., "I paid more attention during the decision, so I feel more certain than if I paid less attention". Noting the effects of this simple heuristic, we anticipate an indirect role of attitude certainty and predict that attitude certainty varies across customers who confront the same assortment size.

In turn, it is a small step from attitude certainty to value. Standard economic models and psychology literature suggest that reduced choice uncertainty increases the utility of a chosen product (Edwards 1954; Von Neumann and Morgenstern 1947). Attitude certainty also relates to attitude intensity (Krosnick et al. 1993; Matthes, Rios Morrison, and Schemer 2010), such that it can intensify the value experience (Pham and Avnet 2009), as highlighted in research that acknowledges that managers care about not just the valence but also the certainty of consumers' attitudes (Berger and Mitchell 1989; Wan et al. 2010). Accordingly, we anticipate that attitude certainty mediates the effect by which engagement due to regulatory fit intensifies value.

Hypotheses

Regulatory fit between an assortment level and the consumer's assessment orientation should enhance the value of a chosen product. We contend that the process that leads to this increase in value involves increased engagement, as a result of regulatory fit, which then causes greater perceptions of certainty in the decision outcome (Figure 1). Customers do not

always react negatively to comparisons, even if they confront larger assortments, because making more comparisons with larger assortments is a regulatory fit for individuals who are high in assessment, because it strengthens engagement with the decision process and thereby increases attitude certainty. Formally,

H1: Shoppers with a high assessment orientation value a product more when they have chosen it from a larger product assortment.

H2: Shoppers with a high assessment orientation are more engaged in a choice when they choose from a larger product assortment.

H3: (a) Engagement mediates the relationship between assortment–assessment fit and product valuation, and then (b) sequentially, attitude certainty mediates the relationship between engagement and product valuation.

Insert figure 1 about here

An Alternative Account Based on Effort

In building the arguments summarized in our preceding hypotheses, we focused mainly on engagement as a state of sustained attention, which offers a possible surrogate indicator of decision quality. Another potentially important indicator is effort, defined as the cognitive resources invested in a task (Bettman, Johnson, and Payne 1990). Extensive literature relates effort to value judgments (e.g., Norton, Mochon, and Ariely 2011). Recent findings suggest that priming an assessment orientation results in greater effort investments in cognitively demanding tasks (Mauro et al. 2009). Also changes in the assortment size must affect the effort required to process the information (Chernev, Böckenholt, and Goodman 2015), such that the combination of large assortments and a high assessment orientation might increase the amount of effort invested in the choice process, which in turn could

increase value perceptions. In retail settings, assessors might expend more effort to deal with large assortments, which would influence their perceptions of the value of their choice (Norton, Mochon, and Ariely 2011). This is important as consumers might justify the effort they have devoted to the comparison by developing more positive perceptions of the value of their choice (Aronson and Mills 1959; Festinger 1957).

Without sufficient conceptual grounds, we cannot explicitly exclude this alternative conjecture. However, our original engagement hypothesis is informative because it manifests a regulatory fit process; the effort hypothesis instead offers an alternative theoretical frame. To isolate the predicted regulatory fit effect, we therefore control empirically for effort as an alternative mediator.

Overview of Studies

With four related studies, we test whether the size of an assortment interacts with customers' orientations to affect their judgments of product value (H1). We rely on established measures of assessment orientation (Studies 1 and 3), similar to what actual managers might use to identify low and high assessor market segments. We also prime assessment orientation (Studies 2 and 4), for instance by using advertisements and thus suggest a potential intervention that managers can use to influence consumers' decision process.

In developing these four studies, we also focus on the underlying mechanisms that might explain regulatory fit effects on value perceptions. In Studies 1 and 2, we consider the alternative mediating role of effort. Study 3 provides tests of the effect of regulatory fit on engagement (H2), as well as the serial mediation that includes engagement (H3a) and attitude certainty (H3b). Finally, with Study 4 we examine the effect of assortment–assessment fit on actual customer behavior on a real digital platform.

Study 1: Assessment Orientation and Assortment Sizes

Study 1 tests our prediction in H1 that, contrary to the conventional wisdom that comparisons in large assortments are aversive (Chernev 2003; Chernev, Böckenholt, and Goodman 2015; Shugan 1980; Xu, Jiang, and Dhar 2013), large assortments might increase product value for high assessors. We regard assessment orientation as a chronic predisposition in Study 1, because we sought to highlight differences among customers, so we measured them using an established regulatory mode scale (Kruglanski et al. 2000). We also test whether effort can explain the value-enhancing effects predicted in H1.

Methods

Forty-nine participants (23 women, M_{age} = 31.5 years, SD = 11.1), recruited from the general population sample of Amazon's Mechanical Turk, participated in this study for remuneration of US$0.50. According to a random assignment of the participants into one of two conditions, they either chose one movie from an assortment of 30 options on an online cinema ticket platform (large assortment condition) or considered a smaller set of 6 movies that represented a random selection of movies from the larger set. Both choice sets featured descriptions of the movie plots (20–40 words) and posters, obtained from the "upcoming movies" section of an Internet movie database (Appendix A), such that familiarity effects were unlikely to arise.

After participants made their movie choice, we measured their perceptions of the assortment size as a manipulation check: "This assortment of movies gives me a lot of options (–1 = Strongly Disagree to –7 = Agree)," which we adopted with slight adjustments from Kahn and Wansink (2004). Next, to measure the dependent measure, the perceived value of the movie ticket, we followed Avnet and Higgins (2003) and asked participants how much they would be willing to spend for this ticket, were they to actually buy it (Appendix

B). To control for the alterative explanation, we also measured effort with a single, self-reported item ("Please indicate how much effort was put into making this choice: 1 = Very much effort to 7 = Very little effort"; Kirmani 1990). Finally, with established regulatory mode scales, we measured assessment and locomotion orientations (12 self-reported items for each orientation; Kruglanski et al. 2000). These scales measure individual differences in locomotion (e.g., "I am a doer"; $\alpha = .84$) or assessment (e.g., "I am a critical person"; $\alpha = .87$), according to the respondents' level of agreement (1 = "Strongly disagree" to 6 = "Strongly agree"). As in previous studies (Kruglanski et al. 2000), the two scales were not correlated (r = -.06, n.s.). Finally, at the end of Study 1, participants answered some questions regarding their movie watching and purchase habits and standard demographic questions. The study concluded with a debriefing.

Results

Manipulation Check. An analysis of variance (ANOVA) yielded the expected effect of the assortment size manipulation for perceived assortment size ($F(1, 47) = 40.33$, $p < .001$, $n^2 = .46$). Participants indicated that the large assortment condition offered a larger assortment (M = 5.90, SD = 1.01) than the small assortment condition (M = 3.56, SD = 1.58).

Valuation. To test our central prediction, regarding the effect of the interaction between participants' assessment orientations and assortment size, we used linear regression analysis. In the first step, the main effects of assessment (A) (Kruglanski et al. 2000) and the assortment size manipulation (B) (small = 0, large = 1), together with their interaction (A × B), were entered into a linear regression analysis. The control variables were experience with renting movies (no = 0, yes = 1), purchase frequency (less than once a month = 0, more than once a month = 1), and cinema visit frequency (less than once a month = 0, more than once a

month = 1), all of which might drive some variance in people's reactions to movies. In a second step, we entered the main effect of effort investment.

The results yielded a significant effect of cinema visit frequency ($\beta = 2.58$, $p < .05$). More pertinent to H1, the predicted two-way interaction between the assessment orientation and small versus large assortments was positive and significant ($\beta = 4.14$, $p < .05$). It remained significant even after we controlled, in the second step, for effort investment ($\beta = 4.44$, $p < .05$).[3] The two-way interaction effects suggest that, as predicted, participants with high assessment orientations in the large, rather than the small, assortment condition produced relatively higher perceptions of the value of the movie tickets (Figure 2). The vertical line marks the assessment orientation value at which the effect of large versus small assortments transitions from being non-significant to significant.

Insert Figure 2 about here

To illustrate the nature of these interaction effects, we applied a Johnson-Neymann (J-N) technique, using the SPSS script from Hayes and Matthes (2009). Thus we could identify points in the range of assessment orientation at which the effect of large versus small assortments shifted from being significant to non-significant. The J-N technique specifies the value of a moderator at which the ratio of the moderated effect to its standard error is equal to the critical t-score (Hayes and Matthes 2009). The conditional effect of small versus large assortments on valuation transitioned from non-significance to significance at .54 ($\beta = 3.71$, SE = 1.84, t = 2.02, $p = .05$; 95% CI [.00, 7.42]). These findings provide support for H1 and not for the alternative, effort-based account.

Study 2: Assessment Primes

[3] The interaction also remained significant ($\beta = 4.59$, $p < .05$) when we controlled for locomotion (n.s.) and the interaction of locomotion with assortment size (n.s.).

Study 1 shows that customers' assessment orientations moderate the effect of large assortments, such that WTP increases when large assortments fit high assessment. Managers might want to leverage such effects even if they can't segment customers, so in Study 2, we investigate whether the revealed increases in perceived product value also occur when assessment is primed rather than measured. Retesting H1 by using primes not only replicates our test of the hypothesized effect, using a different view of assessment orientation (i.e., state rather than trait), but it also offers practical implications regarding potential interventions that managers might adopt. We again controlled for effort as an alternative explanation in Study 2. However, rather than using the post hoc self-assessment measure from Study 1, we sought a more objective measure. In line with established research (Garbarino and Edell 1990), we use a proxy, measured as the time participants spend making their choice.

Methods

Eighty participants (57 women, M_{age} = 23.5 years, SD = 6.9), recruited from a research panel in the United States, received US$7 each. The study asked them to create their own frozen yogurt dessert, using an online platform on which we manipulated the assortment of available ingredients (Appendix C). In this 2 × 2 design, participants first received a random assignment to one of two conditions: the assessment prime or the control. We applied a well-established priming method, in which participants had to recall and write about their own prior assessment behaviors (e.g., "Think back to a time when you acted like a critical person"; Avnet and Higgins 2003). No prime appeared in the control condition. Following a short filler task, half of the participants received a random assignment to a large assortment, while the other half considered a small assortment. In both conditions, the choice process included three steps: choice of frozen yogurt flavor, selection of toppings, and choice of fruits. In the small assortment condition, participants had three options for each step; in the large assortment condition, they faced nine options each. For both conditions, we measured the

choice completion time in the background. Each option appeared along with a photo and short description. This was followed by a manipulation check and standard demographic measures. We checked the manipulation using the same method as in Study 1. Finally, we presented the measure for the dependent variable, product value, using a perceived value scale (1 = "Strongly disagree" to 7 = "Strongly agree"; Sweeney and Soutar 2001) that we adapted and shortened to fit the context ($\alpha = .82$) (Appendix D).

Results

Manipulation Check. An ANOVA yielded the expected effect of the large assortment manipulation for perceived assortment size ($F(1, 78) = 45.46$, $p < .001$, $n^2 = .37$). As intended, the large assortment condition was perceived as larger (M = 5.90, SD = .82) than the small assortment condition (M = 4.18, SD = 1.41).

Valuation. To test our prediction regarding the effect of the interaction between participants' assessment orientations and assortment size, we used a 2 (small or large assortment) × 2 (assessment or control) between-subjects ANOVA, with perceived value as the dependent variable. In the first step, we performed this analysis without covariates. In the second step, we entered choice completion time as a control variable.

The first-step results revealed a significant effect of assortment size ($F(1, 76) = 4.52$, $p < .05$, $n^2 = .06$). Participants in the large assortment condition assigned more value (M = 5.86, SD = .70) to the dessert they created than did those presented with a small assortment (M = 5.53, SD = .80). This analysis also revealed a significant interaction effect of assortment size and assessment prime ($F(1, 76) = 7.68$, $p < .01$, $n^2 = .09$), which remained significant even after we controlled, in the second step, for choice completion time ($F(1, 75) = 7.73$, $p < .01$, $n^2 = .09$).

Pairwise comparisons demonstrated a clear difference in valuations between small and large assortments for the assessment prime group ($p < .01$), irrespective of whether we controlled for effort. As Figure 3 shows, participants in the assessment prime condition assigned more value to the frozen yogurt when customizing from a large assortment (M = 6.14, SD = .54) than from a small one (M = 5.36, SD = .75). We found no significant difference in the control condition. Therefore, as predicted by the assessment fit hypothesis (H1), only participants in an assessment state indicated higher product value when choosing from a large assortment rather than from a small one.

Insert Figure 3 about here

Study 3: Value from Fit, Through Choice Engagement and Attitude Certainty

The preceding studies provide evidence of the value-enhancing effects of assortment–assessment fit. They also show that these effects persist, even when we account for effort, which offers some confidence in the legitimacy of our theorizing. However, the process by which assortment–assessment fit affects value judgments remains to be tested. With Study 3, we therefore explore psychological mechanisms that might sequentially mediate increased valuation for chosen products: choice engagement (Higgins 2006; Higgins et al. 2003) and attitude certainty. We expect increased engagement in the choice when high assessment-oriented respondents choose from large retail assortments, which should predict attitude certainty (Avnet, Laufer, and Higgins 2013; Cesario, Grant, and Higgins 2004), and in turn, attitude certainty should lead to increased WTP.

Methods

Eighty-one students (44 women, M_{age} = 22.5 years, SD = 1.6) from a Dutch university participated in return for course credit. We assigned approximately half of them to the large and half to the small assortment condition. Both conditions described a scenario in which

participants created their own cupcake, using an online food ordering platform. The process was identical to that in Study 2, except that the first choice involved the cupcake base instead of a frozen yogurt flavor. We avoided frozen yogurt because we conducted Study 3 in the winter.

The manipulation check and dependent variable (product value) and order of measurement were the same as in Study 2 ($\alpha = .85$; Sweeney and Soutar 2001; Appendix D). Next, for the first mediator, engagement in the choice, we used a modified, 14-item engagement scale (1 = "Not at all" to 7 = "Extremely"; $\alpha = .91$; Bruner 2009; Appendix E). For the second mediator, attitude certainty, we relied on an established, 6-item measure (1 = "Strongly disagree" to 7 = "Strongly agree"; $\alpha = .91$; Krosnick et al. 1993; Appendix F). To measure the locomotion ($\alpha = .79$) and assessment ($\alpha = .61$) orientations, we applied the scales from Study 1 (Kruglanski et al. 2000). The study concluded with demographic measures and a debriefing.

Results

Manipulation Check. An ANOVA yielded the expected effect of the large assortment manipulation for perceived assortment size ($F(1, 79) = 15.10$, $p < .001$, $n^2 = .16$). The large assortment condition was evaluated as a larger assortment (M = 5.61, SD = 1.50) than the small assortment condition (M = 4.30, SD = 1.54).

Valuation and Choice Engagement. To test whether the interaction of participants' assessment orientation and assortment size affects both value perceptions (H1) and engagement (H2), we conducted two linear regression analyses. The main effects of (A) assessment and (B) the assortment size manipulation (small = 0, large = 1) and the interaction between these variables (A × B) all were entered into a linear regression analysis for each dependent variable. Only the two-way interaction between assessment and small versus large

assortments reached significance for valuation (β = .74, $p < .05$) and engagement (β = .95, $p < .05$).[4] To illustrate these interaction effects, we again applied the J-N technique (Hayes and Matthes 2009). For the value perceptions, the conditional effect of small versus large assortments transitioned from significance to non-significance at a centered assessment value of -1.03 (β = -.83, SE = .45, t = -1.99, $p < .05$, 95% CI [-1.65, .00]). For choice engagement, this conditional effect shifted from non-significance to significance at a centered assessment value of -.11 (β = -.43, SE = .21, t = -1.99, $p < .05$; 95% CI [-.85, .00]). These findings provide additional support for H1 and support H2. As we predicted, among participants with high assessment orientations, the large rather than the small assortment condition produced relatively higher value perceptions and engagement. Figure 4 shows these patterns. The vertical line marks the assessment orientation value at which the effect of large versus small assortments transitions from being significant to non-significant.

Insert Figure 4 about here

Test of Sequential Mediation. By predicting and testing for sequential mediation, we can detail the effects on the fit–value link that are attributable to engagement and attitude certainty (H3). Specifically, we test mediation pathways in which more than one mediator works sequentially rather than in parallel, using the bootstrapped mediated moderation analysis available in the PROCESS macro for SPSS (model 6; Hayes 2012). Table 1 contains the results of this analysis.

First, we consider the results of three multiple regression models. Model 1 tests the main effects and interaction between assessment and assortment size (limited = 0, abundant = 1) when choice engagement is the dependent variable. In Model 2, attitude certainty is the

[4] The interactions remained significant for valuation (β =.74, $p < .05$) and choice engagement (β =.95, $p < .05$) even after we controlled for locomotion (valuation β =.69, $p < .001$; engagement n.s.), the interaction of locomotion with assortment size (n.s., n.s.), and the three-way interaction of locomotion, assessment, and assortment size (n.s., n.s.).

dependent variable, and we include both the independent variables from Model 1 and engagement as an added independent variable. In Model 3, we regressed perceived value on all variables from Model 2, in addition to attitude certainty. In support of H2, Model 1 shows a significant interaction effect on choice engagement ($\beta = .95$, $p < .05$). Model 2 indicates only a significant effect of the first mediator (choice engagement) on the second mediator (attitude certainty). According to Model 3, with choice engagement and attitude certainty together, the interaction effect of assessment and assortment size on value became non-significant. The effects of choice engagement ($\beta = .33$, $p < .001$) and attitude certainty ($\beta = .37$, $p < .01$) on value perceptions were highly significant.

Second, Table 1 contains the 95% bootstrapped CI for the three indirect paths through choice engagement only, attitude certainty only, and engagement and attitude certainty together. The CIs for the total indirect effect of assortment–assessment fit on perceived value did not include 0 [.09, .85], indicating mediation. The indirect effect of fit on perceived value through engagement reached significance (95% CI [.05, .73]), in support of H3a. The indirect effect of fit on perceived value through the sequential mediation of engagement and attitude certainty also was significant (95% CI [.01, .20]), in further support of H3a and H3b. Thus, the fit effect between assortment sizes and assessment orientation on perceived value can be explained by increased engagement, followed by attitude certainty. In contrast, the indirect effect of fit on perceived value through attitude certainty alone did not reach significance; it only mediated the assortment–assessment fit effect in connection with engagement.

Insert Table 1 about here

Study 4: Field Experiment

With Study 4, we check the external validity of our findings. Specifically, to test whether the observed assortment–assessment fit effects generalize to actual customer product

selections, we conducted a field experiment on a real digital platform. Furthermore, we sought to address some limitations of Study 2. Lab-based priming studies such as Study 2 can be subject to hypothesis guessing. We designed Study 4 to reduce the likelihood of such guesses: We primed assessment using actual advertising banners on a digital retail platform.

Methods

Procedure. We manipulated the German-language advertising banners on the German website of a large European online retailer of over-the-counter medicine. The 55,583 customers exposed to the banners saw either an assessment prime or a control version. The assessment banner explicitly invited visitors to focus on making the best decision, using a slogan, "Decide for the right medicine against a headache," a text box with "Our best products for you," and a picture of a woman comparing products online. The control group banner instead contained the neutral slogan "Sharp headaches?", a text box with the words "Help with headaches," and a picture of a woman holding her head (as if she has a headache). Only the 377 customers who clicked on one of these advertising banners were included in the analysis. Following the advertising link, customers saw one or two options for painkillers, such that participants in the single-option condition saw one of the randomly chosen choices in the two-option assortment.

Measures. To measure our dependent variable, product selection, we recorded whether each customer selected a painkiller, either by clicking on the product or the "add-to-cart" button.

Pretest. To ensure the effectiveness of our manipulation, 50 participants (30 women, M_{age} = 26.9, SD = 8.5) with good command of the German language considered either the assessment prime or a control banner. For the pretest, we measured assessment orientation using a two-item situational assessment measure (α = .68), designed for this experiment (e.g.,

"The ad encouraged me to think about which is the optimal product for me: 1 = Strongly disagree to 6 = Strongly agree"). The standard 12-item measure was deemed impractical, because it measures stable rather than situational differences in assessment orientation (Kruglanski et al. 2000). An ANOVA yielded the expected effect of the assessment prime manipulation for situational assessment ($F(1, 48) = 4.44$, $p < .05$, $n^2 = .09$). People in the assessment condition indicated higher situational assessment (M = 7.08, SD = 2.12) than those in the control condition (M = 5.73, SD = 2.39).

Results

Product Selection. To test our central prediction, we entered the main effects of the assessment prime (A) (control = 0, prime = 1) and the assortment size manipulation (B) (smaller = 0, larger = 1) and their interaction (A × B) into a logistic regression analysis. We found a significant main effect of smaller versus larger assortments ($\beta = .79$, $p < .01$), such that customers were more likely to select a product presented in a two-option assortment rather than as a single option. This main effect was qualified, as predicted, by a significant interaction between assessment prime and assortment size ($\beta = 1.50$, $p < .01$). Customers in the control condition also were more likely to select a product from a larger rather than a smaller assortment ($\beta = .79$, SE = .30, Z = 2.67, $p < .01$, 95% CI [.21, 1.38]). For customers in the assessment prime condition, this effect strengthened significantly ($\beta = 2.29$, SE = .42, Z = 5.47, $p < .001$, 95% CI [1.47, 3.12]). While the assessment prime showed no significant effect in the single option condition, it did significantly increase selection likelihood in the two option condition ($\beta = 1.10$, SE = .33, Z = 3.35, $p < .001$, 95% CI [.46, 1.75]). Presenting customers in the two option condition with an assessment rather than control advertisements increased their likelihood of selection by 27%. In support of H1, we thus find that increases in assortment size heighten the selection likelihood more for customers in an assessment state. Figure 5 presents this finding graphically.

Insert Figure 5 about here

General Discussion

To date, prior literature has offered ambiguous findings regarding when, for whom, and why an assortment abundance might lead to higher or lower value perceptions for products among consumers. Empirical research has documented both positive and negative effects of large product assortments; meta-analyses even challenge the idea of any effect at all (Chernev, Böckenholt, and Goodman 2015; Scheibehenne, Greifeneder, and Todd 2010). Some progress has been made to address this ambiguity (Lenton, Fasolo and Todd 2008, Reutskaja and Hogarth 2009, Shah and Wolford 2007). Yet, few studies have explored individual differences, psychological states, or processes that might determine when larger retail assortments affect value perceptions (Chernev, Böckenholt, and Goodman 2010; Spassova and Isen 2013), we seek to contribute to this debate by showing how people's underlying assessment orientations can help explain why they find products chosen from larger retail assortments more valuable, whereas others do not. Our findings lead us to speculate that a significant part of the variance in reactions to large assortments, as documented in prior studies, might result from such systematic but unaccounted for differences across customers.

Recent studies that attempt to explain the negative effects of large assortments often embrace the idea that consumers have a general aversion to making comparisons (Chernev 2003; Chernev, Böckenholt, and Goodman 2015; Shugan 1980; Xu, Jiang, and Dhar 2013) or that comparisons highlight the weaknesses of otherwise attractive options (Chan 2015). We take a different approach and thereby illustrate that the effect actually depends on consumers' assessment orientations, or their motivation to pursue goals by engaging in comparisons and evaluations. As we discuss subsequently, our studies are limited in terms of the extensiveness

of the assortment sizes, but within these constraints, our reliable results suggest the need for a more nuanced perspective on the averseness of comparisons. In particular, large assortments can be engaging and increase perceptions of the value of products chosen from among them, particularly if people have a strong motive to compare and evaluate all their options. Four related studies provide consistent evidence of this effect, and we also affirm some underlying psychological processes.

Specifically, with Study 1 we show that expanding the assortments offered to high assessors can increase their WTP, whereas these effects cannot be explained by heightened effort. Study 2 provides complementary evidence that priming an assessment orientation also increases value perceptions of products from large assortments. With Study 3, we determine that digital platforms that seek to increase customer engagement can profit from assortment–assessment fit and that larger assortments lead to greater engagement and attitude certainty (rather than effort) among high assessors. Finally, in Study 4 we apply the observed assortment–assessment fit effect to an actual customer setting and use conventional advertising tools to induce assessment.

Implications for Managers

Certain customers have a clear preference for products chosen from larger assortments because they are predisposed toward a high assessment orientation. The benefit of creating regulatory fit between a customer's motivation to compare and the assortment size ultimately influences their inclination to spend money, a finding with implications for segmentation and targeting. When developing a segmentation strategy, market researchers might determine which segments are characterized by high assessment orientations, because these prototypical customers will be best served with large assortments. Dynamic website tools provide vast opportunities for companies to fine-tune their digital offerings in

accordance with consumer preferences. Thus, companies like Amazon and Netflix could adjust the breadth and depth of their assortment, much like they tailor product recommendations to customer tastes. Moreover, consumers' heterogeneous assessment orientations are relevant to platforms that offer limited assortments, which is critical for smaller platforms, such as local restaurants trying to compete with large national intermediaries (Edelman 2014). For these platforms, a niche strategy with a limited assortment can create regulatory fit with low assessors, who also are willing to pay more for products they have selected from a smaller assortment.

If retailers struggle to identify their customers' assessment orientation, they can induce this motivation effectively through marketing communications. Then they can match their communication frames with the assortment size to induce further regulatory fit. The outcomes should include heightened value perceptions, and a greater likelihood of product selection. For example, a prime that displays a person actively engaged in making product comparisons (as in the banner advertisement in Study 4) creates an assessment orientation. Our field study shows a 27% increase in product selection as a result of such a banner ad. An assessment motivation also can be primed through comparative advertising (Pierro et al. 2013a); digital platforms such as Seamless already use this communication tactic to highlight the comparative benefits of their platforms.

Finally, customer attitude certainty helps translate regulatory fit into higher payment intentions. Therefore, managers should deploy tactics to increase their customers' attitude certainty. They have several options for doing so. For example, they might present consistent reviews, signaling positive appreciation of the product (or lack thereof) (Rucker et al. 2014). Another method could provide information about what choice other customers have made in a similar situation (e.g., "80% of customers searching for a funny movie picked this title").

Limitations and Further Research

We focus on engagement, together with attitude certainty, to explain the perceived value that results from fit. Avnet, Laufer, and Higgins (2013) argue that the main impetus underlying this regulatory fit conceptualization is people's confidence in their judgments, though they also demonstrate that regulatory fit can produce perceptions of value by causing consumers to "feel good" about a particular product. This alternative pathway to value relies on the view that people use their feelings as information. Further research therefore might conduct follow-up studies to compare the predictive ability of both pathways and identify any boundary conditions in relation to product choice or assortment size on digital platforms.

We also considered only specific kinds of products. Ratchford (1987) argues that products can be classified according to whether their purchase invokes cognitive or affective information processing modes. With the exception of Study 4, we investigated products that require mostly affective processing (e.g., movies, desserts). The results might differ for products that spark cognitive processing, especially because the choice of products that involve predominantly cognitive processing might place consumers in a temporary assessment state. Following this line of reasoning could help clarify why choice overload effects tend to appear in studies featuring products that require affective processing (Ratchford 1987), such as wine (Scheibehenne 2008), but more-is-better effects instead emerge for more cognitive products, such as sunscreen (Soellner and Newell 2008, cited in Scheibehenne et al. 2010). In addition to their requirement for affective processing, the products we investigate mostly provide short-term benefits. Thus, it is unclear whether our results generalize to products with long-term benefits, such as retirement plans, which have been shown to be closely associated with assessment motivations (Mannetti et al. 2009). In this sense, we acknowledge the possibility of a ceiling effect for assessment orientation.

Additional research is needed to detail the relationship among product types, assessment orientation, and product valuation.

Finally, extensive literature shows that with a growing assortment size, the costs of choosing from a large assortment rise faster than the benefits, resulting in an inverted U-shaped relationship between assortment size and choice satisfaction (Lenton, Fasolo, and Todd 2008; Reutskaja and Hogarth 2009; Shah and Wolford 2007). Some assortments might be so large that all customers experience choice overload; others might be so limited that virtually all customers would prefer a larger assortment. Study 4 provides preliminary evidence in support of this idea, by revealing the significant interaction effect between assessment and assortment size, as well as a positive main effect of assortment size, such that a set of two options invokes higher valuations than a set of just one option. An inverted U-shaped relationship thus might arise between assortment size and choice satisfaction, with an optimal point that varies according to the customer's assessment orientation. Further research is needed to test this expectation.

Conclusion

Digital retail platforms aim to present customers with ever-increasing assortments of offerings. Yet it is not clear when, for whom, or how comparing a vast variety of options on a plentiful platform is engaging or value enhancing. We provide some evidence in support of the theory that customers with high assessment orientations value products more when they choose those products from a large assortment. This effect holds whether assessment orientation is a stable trait (Studies 1 and 3) or temporary state (Study 2 and 4), and it generalizes to actual customer behavior on real retail platforms (Study 4). This effect of the fit between assortment size and assessment orientation is driven by heightened engagement in the choice process and attitude certainty (Study 3). Our findings thus offer specific, practical

suggestions for digital platform managers and extend extant research on the effects of assortment size and product comparisons.

References

Aronson, Elliot and Judson Mills (1959), "The Effect of Severity of Initiation on Liking for a Group," *Journal of Abnormal and Social Psychology*, 59 (September), 177–181. http://doi.org/10.1037/h0047195

Avnet, Tamar, and Edward T. Higgins (2003), "Locomotion, Assessment, and Regulatory Fit: Value Transfer from 'How' to 'What'," *Journal of Experimental Social Psychology*, 39 (September), 525–530. doi:10.1016/S0022-1031(03)00027-1

———, Daniel Laufer, and Edward T. Higgins (2013), "Are All Experiences of Fit Created Equal? Two Avenues to Persuasion," *Journal of Consumer Psychology*, 23 (July), 301–316. http://doi.org/10.1016/j.jcps.2012.10.011

Baumol, William J. and Edward A. Ide (1956), "Variety in Retailing," *Management Science*, 3 (October), 93–101.

Berger, Ida E., and Andrew A. Mitchell (1989), "The Effect of Advertising on Attitude Accessibility, Attitude Confidence, and the Attitude-Behavior Relationship," *Journal of Consumer Research*, 16(December), 269–279. http://doi.org/10.1086/209213

Bettman, James R., Eric Johnson, and John W. Payne (1990), "A Componential Analysis of Cognitive Effort in Choice," *Organizational Behavior and Human Decision Processes*, 45 (February), 111–139. http://doi:10.1016/0749-5978(90)90007-V

Boatwright, Peter, and Joseph C. Nunes (2001), "Reducing Assortment: An Attribute-Based Approach," *Journal of Marketing*, 65(July), 50–63. http://dx.doi.org/10.1509/jmkg.65.3.50.18330

Bruner, Gordon C. (2009). *Marketing Scales Handbook*, Vol. 5. Chicago, IL: American Marketing Association.

Cesario, Joseph, Heidi Grant, and Edward T. Higgins (2004), "Regulatory Fit and Persuasion: Transfer from 'Feeling Right'," *Journal of Personality and Social Psychology,* 86 (March), 388–404. http://doi.org/10.1037/0022-3514.86.3.388

Chan, Eugene Y. (2015), "Attractiveness of Options Moderates the Effect of Choice Overload," *International Journal of Research in Marketing*, 32(December), 425–427. doi:10.1016/j.ijresmar.2015.04.001

Chernev, Alexander (2003), "When More Is Less and Less Is More: The Role of Ideal Point Availability and Assortment in Consumer Choice," *Journal of Consumer Research,* 30 (September), 170–183. doi:10.1086/376808

———, Ulf Böckenholt, and Joseph Goodman (2010), "Commentary on Scheibehenne, Greifeneder, and Todd Choice Overload: Is There Anything to It?" *Journal of Consumer Research*, 37 (October), 426–428. doi:10.1086/655200

———, ———, and ——— (2015), "Choice Overload: A Conceptual Review and Meta-Analysis," *Journal of Consumer Psychology*, 25 (April), 333–358. doi: 10.1016/j.jcps.2014.08.002

Edelman, Benjamin (2014), "Mastering the Intermediaries," *Harvard Business Review*, 92 (June), 86–92. Retrieved from http://www.hbr.org

Edwards, Ward (1954), "The Theory of Decision Making," *Psychological Bulletin*, 51(July), 380–417. http://doi.org/10.1037/h0053870

Fasolo, Barbara, Floriana Carmeci, and Raffaella Misuraca (2009), "The Effect of Choice Complexity on Perception of Time Spent Choosing: When Choice Takes Longer but Feels Shorter," *Psychology & Marketing*, 26 (March), 213–228. doi:10.1002/mar

Festinger, Leon (1957), *Cognitive Dissonance Theory*. Stanford CA: Stanford University Press.

Garbarino, Ellen and Julie A. Edell (1997), "Cognitive Effort, Affect, and Choice," *Journal of Consumer Research*, 24(September), 147–158. http://dx.doi.org/10.1086/209500

Hayes, Andrew F. (2012), "PROCESS: A Versatile Computational Tool for Observed Variable Moderation, Mediation, and Conditional Process Modeling," white paper, Ohio State University, 1–39. Retrieved from http://www.afhayes.com/public/process2012.pdf

——— and Jörg Matthes (2009), "Computational Procedures for Probing Interactions in OLS and Logistic Regression: SPSS and SAS Implementations," *Behavior Research Methods*, 41 (August), 924–936. doi:10.3758/BRM.41.3.924

Haynes, Graeme A. (2009), "Testing the Boundaries of the Choice Overload Phenomenon: The Effect of Number of Options and Time Pressure on Decision Difficulty and Satisfaction," *Psychology & Marketing*, 26 (March), 204–212. doi:10.1002

Higgins, Edward T. (2000), "Making a good decision: Value from fit." *American Psychologist*, 55 (November), 1217-1230. http://psycnet.apa.org/psycinfo/1217-1230. http://dx.doi.org/10.1037/0003-066X.55.11.1217

——— (2006), "Value from Hedonic Experience and Engagement," *Psychological Review*, 113 (July), 439–460. doi:10.1037/0033-295X.113.3.439

———, Arie W. Kruglanski, and Antonio Pierro (2003), "Regulatory Mode: Locomotion and Assessment as Distinct Orientations," *Advances in Experimental Social Psychology*, 35, 293–344. doi:10.1016/S0065-2601(03)01005-0

——— and Abigail A. Scholer (2009), "Engaging the Consumer: The Science and Art of the Value Creation Process," *Journal of Consumer Psychology*, 19 (April), 100–114. http://doi.org/10.1016/j.jcps.2009.02.002

Hutchinson, John M. C. (2005), "Is More Choice Always Desirable? Evidence and Arguments from Leks, Food Selection, and Environmental Enrichment," *Biological*

Reviews of the Cambridge Philosophical Society, 80 (February), 73–92. doi: 10.1017/S1464793104006554

Iyengar, Sheena S., and Mark R. Lepper (2000), "When Choice Is Demotivating: Can One Desire Too Much of a Good Thing?" *Journal of Personality and Social Psychology*, 79 (December), 995–1006. doi: 10.1037/0022-3514.79.6.995

Kadet, A. (2014), "New York City's Grocery Delivery Wars: Who's the Winner?" *The Wall Street Journal*, (February) Retrieved from http://www.wsj.com/articles/new-york-citys-grocery-delivery-wars-whos-the-winner-1423250707

——— and Brian Wansink (2004), "The Influence of Assortment Structure on Perceived Variety and Consumption Quantities," *Journal of Consumer Research*, 30 (March), 519–533. doi: 10.1086/380286

Keeling, Debbie I., Ahmad Daryanto, Ko de Ruyter, and Martin Wetzels (2013), "Take It or Leave It: Using Regulatory Fit Theory to Understand Reward Redemption in Channel Reward Programs," *Industrial Marketing Managemen*t, 42 (November), 1345-1356. doi:10.1016/j.indmarman.2013.07.005

Kirmani, Amna (1990), "The Effect of Perceived Advertising Costs on Brand Perceptions." *Journal of Consumer Research*, 17 (September), 160-171. http://doi.org/10.1086/208546

Koelemeijer, Kitty, and Harmen Oppewal (1999), "Assessing the Effects of Assortment and Ambience: A Choice Experimental Approach," *Journal of Retailing*, 75 (March), 319–345. doi:10.1016/S0022-4359(99)00011-1

Krosnick, Jon A., David S. Boninger, Yao C. Chuang, Matthew K. Berent, and Catherine G. Carnot (1993), "Attitude Strength: One Construct or Many Related Constructs?" *Journal of Personality and Social Psychology*, 65 (December), 1132–1151. http://doi.org/10.1037/0022-3514.65.6.1132

Kruglanski, Arie W., Antonio Pierro, Lucia Mannetti, and Edward T. Higgins (2013), "The Distinct Psychologies of 'Looking' and 'Leaping': Assessment and Locomotion as the Springs of Action," *Social and Personality Psychology Compass*, 7 (February), 79–92. doi:10.1111/spc3.12015

———, Erik P. Thompson, Edward T. Higgins, Mohammed N. Atash, Antonio Pierro, James Y. Shah, and Scott Spiegel (2000), "To 'Do the Right Thing' or to 'Just Do It': Locomotion and Assessment as Distinct Self-Regulatory Imperatives," *Journal of Personality and Social Psychology*, 79 (November), 793–815. doi: 10.10371A1022-3514.79.5.793

Lee, Angela Y., Punam A. Keller, and Brian Sternthal (2010), "Value from Regulatory Construal Fit: The Persuasive Impact of Fit between Consumer Goals and Message Concreteness," *Journal of Consumer Research*, 36 (July), 735–747. doi:10.1086/605591

Lenton, Alison P., Barbara Fasolo, and Peter M. Todd (2008), "'Shopping' for a Mate: Expected versus Experienced Preferences in Online Mate Choice," *IEEE Transactions on Professional Communication*, 51 (June), 169–182. doi:10.1109/TPC.2008.2000342

Mannetti, Lucia, Susanne Leder, Libbera Insalata, Antonio Pierro, Edward T. Higgins, and Arie W. Kruglanski (2009), "Priming the Ant or the Grasshopper in People's Minds: How Regulatory Mode Affects Inter-Temporal Choices," *European Journal of Social Psychology*, 39 (February 2009), 625–634. http://doi.org/10.1002/ejsp

Matthes, Jörg, Kimberly Rios Morrison, and Christian Schemer (2010), "A Spiral of Silence for Some: Attitude Certainty and the Expression of Political Minority Opinions," *Communication Research*, 37 (June), 774–800. http://doi.org/10.1177/0093650210362685

Mauro, Romina, Antonio Pierro, Lucia Mannetti, Edward T. Higgins, and Arie W. Kruglanski (2009), "The Perfect Mix. Regulatory Complementarity and the Speed-Accuracy Balance in Group Performance," *Psychological Science*, 20 (June), 681–685. doi: 10.1111/j.1467-9280.2009.02363.x

Norton, Michael I., Daniel Mochon, and Dan Ariely (2011), "The IKEA Effect: When Labor Leads to Love," *Journal of Consumer Psychology*, 22 (July) 1–8. doi:10.1016/j.jcps.2011.08.002

Pham, Michel T., and Tamar Avnet (2009), "Rethinking Regulatory Engagement Theory," *Journal of Consumer Psychology*, 19 (April), 115–123. http://doi.org/10.1016/j.jcps.2009.02.003

Pierro, Antonio, Mauro Giacomantonio, Gennaro Pica, Lucia Mannetti, Arie W. Kruglanski, and Edward T. Higgins (2013), "When Comparative Ads Are More Effective: Fit with Audience's Regulatory Mode," *Journal of Economic Psychology*, 38 (October), 90–103. doi:10.1016/j.joep.2013.10.006

———, ———, ———, Anna M. Giannini, Arie W. Kruglanski, and Edward T. Higgins (2013), "Persuading Drivers to Refrain from Speeding: Effects of Message Sidedness and Regulatory Fit," *Accident; Analysis and Prevention*, 50, 917–25. doi:10.1016/j.aap.2012.07.014

Ratchford, Brian T. (1987), "New Insights about the FCB Grid," *Journal of Advertising Research*, 27 (August), 24–38.

Reutskaja, Elena, and Robin Hogarth (2009), "Satisfaction in Choice as a Function of the Number of Alternatives: When 'Goods Satiate'," *Psychology & Marketing*, 26 (March), 197–203. doi:10.1002/mar

Rucker, Derek D., Zakary L. Tormala, Richard E. Petty, and Pablo Briñol (2014), "Consumer Conviction and Commitment: An Appraisal-Based Framework for Attitude Certainty," *Journal of Consumer Psychology*, 24 (January), 119–136. http://doi.org/10.1016/j.jcps.2013.07.001

Scheibehenne, Benjamin (2008), *The Effect of Having Too Much Choice*, doctoral dissertation. Humboldt-Universität Berlin, Germany.

———, Rainer Greifeneder, and Peter M. Todd (2009), "What Moderates the Too-Much-Choice Effect?" *Psychology & Marketing,* 26 (March), 229–253. doi:10.1002/mar

———, ———, and ——— (2010), "Can There Ever Be Too Many Options? A Meta-Analytic Review of Choice Overload," *Journal of Consumer Research*, 37 (October), 409–425. doi:10.1086/651235

Schwartz, Barry (2000), "Self-Determination: The Tyranny of Freedom," *American Psychologist*, 55 (January), 79–88. doi:10.1037//0003-066X.55.1.79

Shah, Avni M., and George Wolford (2007), "Buying Behavior as a Function of Parametric Variation of Number of Choices," *Psychological Science,* 18 (May), 369–70. doi:10.1111/j.1467-9280.2007.01906.x

Shugan, Steven M. (1980), "The cost of thinking," *Journal of Consumer Research*, 7 (September), 99–111. doi: 10.1086/208799

Spassova, Gerri, and Alice M. Isen (2013), "Positive Affect Moderates the Impact of Assortment Size on Choice Satisfaction," *Journal of Retailing*, 89 (December), 397–408. doi:10.1016/j.jretai.2013.05.003

Sriram, Srinivasaraghavan, Puneet Manchanda, Mercedes E. Bravo, Junhong Chu, Liye Ma, Minjae Song, Scott Shriver, and Upender Subramanian (2014), "Platforms: a Multiplicity of Research Opportunities," *Marketing Letters*, 26 (August), 141–152. doi:10.1007/s11002-014-9314-1

Sweeney, Jill C., and Goeffrey N. Soutar (2001), "Consumer Perceived Value: The Development of a Multiple Item Scale," *Journal of Retailing*, 77 (August), 203–220. doi:10.1016/S0022-4359(01)00041-0

Ungerleider, Neal (2014), "The Hidden Psychology of Ordering Food Online," *Fast Company*, (05 June 2014) Retrieved from www.fastcompany.com

Von Neumann, John, and Oskar Morgenstern (1953), *Theory of Games and Economic Behaviour*. Princeton: Princeton University Press.

Wan, Echo W., Derek D. Rucker, Zakary L. Tormala, and Joshua J. Clarkson (2010), "The Effect of Regulatory Depletion on Attitude Certainty," *Journal of Marketing Research*, 47(June), 531–541. http://doi.org/10.1509/jmkr.47.3.531

Xu, Jing, Zixi Jiang, and Ravi Dhar (2013), "Mental Representation and Perceived Similarity: How Abstract Mindset Aids Choice from Large Assortments," *Journal of Marketing Research*, 50 (August), 548–559. doi: 10.1509/jmr.10.0390

Table 1

Assortment–assessment fit effect on valuation and mediation by engagement and attitude certainty

DV= Choice Engagement	Model 1			
	β	*SE*	*t*	*p*
Constant	4.43	.15	28.64	.00
Assortment size	-.32	.21	-1.54	.13
Assessment	-.31	.25	-1.24	.22
Assortment size × Assessment	-.95	.40	2.37	.02
DV = Attitude Certainty	Model 2			
	β	*SE*	*t*	*p*
Constant	2.42	.36	6.71	.00
Choice Engagement	.20	.08	2.56	.01
Assortment size	.06	.15	.38	.71
Assessment	-.05	.17	.28	.78
Assortment size × Assessment	.14	.28	.49	.63
DV = Valuation	Model 3			
	β	*SE*	*t*	*P*
Constant	2.51	.51	4.95	.00
Choice Engagement	.33	.09	3.66	.00
Attitude Certainty	.37	.13	2.92	.00
Assortment size	.05	.16	.32	.75
Assessment	-.16	.20	-.84	.40
Assortment size × Assessment	.30	.32	.96	.34

	Bootstrapping: Indirect effects			
	Effect	SE	L95	U95
Total	.43	.1942		.8488
Fit → Engagement → Value	.31	.1590		.7307
Fit → Attitude certainty → Value	.05	.1286		.3468
Fit → Engagement → Attitude certainty → Value	.07	.0481		.2038